Building Research Establishment Digest

CI/SfB 06:8 (E2)

DIGEST 154

June 1973

Local housing programmes

This digest introduces a subject that is new to the scope of the series, drawing for the first time on the work of the Urban Planning Division. It comments on current factors relating generally to the housing situation and highlights demographic and other data that should be taken into account when local authorities, and others concerned with the provision of dwellings, are considering future house-building programmes.

The digest deals with national trends and quotes national statistics from which there will be considerable local variations. Nevertheless, an awareness of these trends is desirable in the planning of local housing programmes.

For a fuller treatment of the subject, see 'Trends in population, housing and occupancy rates 1861–1961' by W V Hole and M T Pountney: HMSO: 1971.

The context

The UK spends some £1500 million a year in building new dwellings and improving existing ones; about half of this is spent by the public sector and half by the private sector. Whilst the numbers in the total housing stock still fall short of estimated need, there is an excess in some areas alongside an endemic shortage in places such as London. But with a slow rate of population growth, even compared with most other highly developed countries, the questions relating to new construction are now *what type* and *where,* rather than *how many* dwellings.

Despite the large volume of housebuilding since the last war, houses built before 1914 still comprise about a third of the present housing stock. Demolition of unfit dwellings increased during the sixties and together with house improvements this has noticeably reduced the amount of unfit housing (estimated by surveys in 1967 and 1971). Slum clearance, as it was known up to the end of the thirties, no longer exists, but with the solution of the problem of dwellings now classified as unfit almost in sight, new problems of caring for and adapting the older parts of the housing stock will arise as changing needs and standards render them obsolete.

Rising standards of living since the war have already changed expectations regarding space, standard of specification in the home—for example, requirements for thermal comfort—housing layout and environmental amenity. There has been a major swing to owner occupation, so that both private and public building are serving rather different portions of the population than they did before 1939. The broad social objectives of the public sector are still to assist those who are underprivileged in the housing market, but the type of assistance that public authorities are now empowered to provide and the composition of the underprivileged group have changed.

There is increasing pressure on local authorities to consider housing in their areas in the round, public and private sectors together meeting the overall needs. But as the useful life of a house in this country is generally assumed to be longer than 60 years—the period over which public housing is financed—an awareness of recent changes in need, and the direction of likely future trends is crucial to this broader approach to planning.

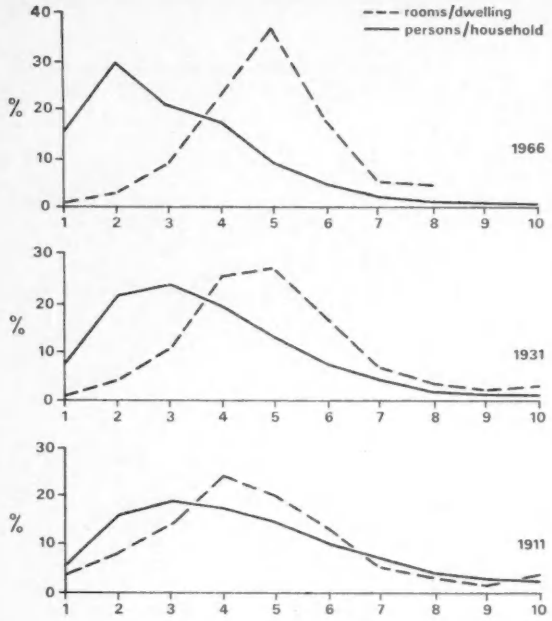

Fig 1 Changes in household size and house size

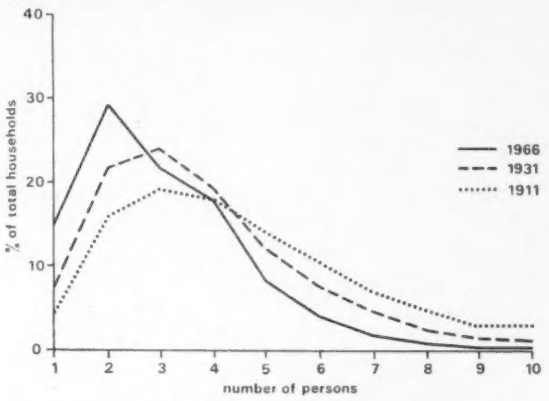

Fig 2 Size of private households; England Wales 1911–66

The present position

The broad aim of housing policies is to produce a situation in which the needs of all households are matched by the available housing stock, with sufficient 'slack' in the system to allow both new households and those wishing to move to choose from a reasonable range of dwellings. Ideally the phrase 'matched by the available housing stock' would cover such matters as number and size of rooms, type of dwelling (house, flat, maisonette, etc), location and type of tenure and cost. Too little is known about the relationship between these factors and the way in which the desires of households vary according to their social and economic characteristics to enable households to be matched closely to housing stock. The three graphs in Fig 1 show the distribution of household sizes and of the housing stock by number of rooms per dwelling for the years 1911, 1931 and 1966. They show that on the simple criterion of rooms per dwelling there has been a growing mismatch between the range of household sizes and the housing stock. Even allowing for a rise in the demand for space, it can be assumed that there is at least some rough correlation between the size of household and its space needs (see Table 3) but it is evident that an increase in the number of small households has not been accompanied by an increase of small dwellings.

Perhaps more important, however, is the conclusion that housing has, over these 55 years, concentrated more on five-room (three-bedroom) dwellings. Hence there is less flexibility in the housing stock either for a household to move to a dwelling of different size as it needs change, even if its economic circumstances permit this, or for the stock to meet future changes in overall demand for space. This concentration on building three-bedroom houses can be explained partly on a value-for-money basis; the cost per bedspace is less in a five-person than in a one-person dwelling, so there is an economic inducement—to obtain the most space for the financial outlay. Added to this, during much of the past, the public sector has been primarily concerned in housing families with children.

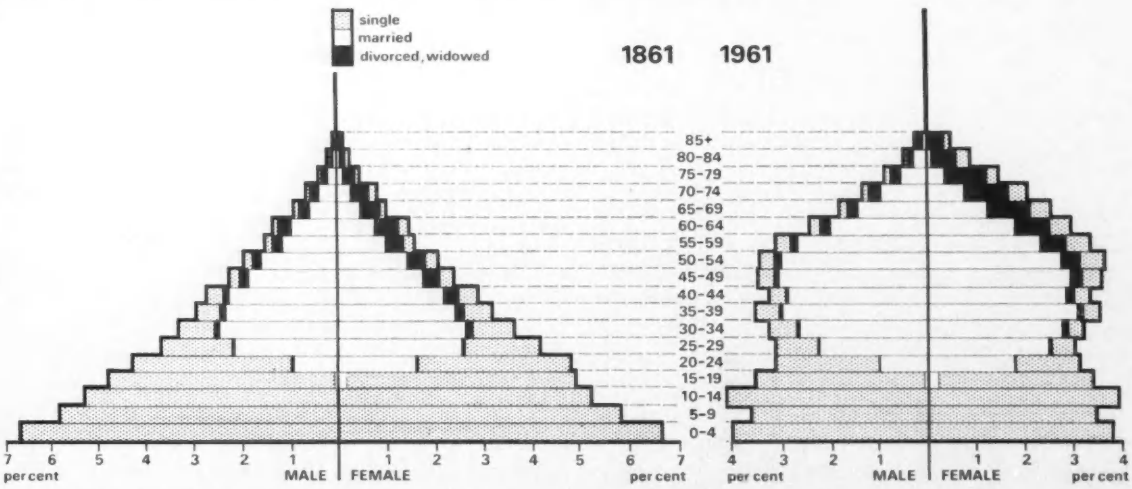

Fig 3 Population of England and Wales, 1861 and 1961 : age, sex and marital status

While the private sector builds in response to its assessment, adequate or not, of demand, the overall planning for need in an area in relation both to existing stock and new building lies with the public sector. Part of this planning must have regard to overall balance of different sizes and types of dwelling within the housing stock and it should take into account demographic and social trends.

Demographic changes

The shift in balance of large and small households over the last 50 years has already been mentioned. In order to make the point more forcibly the household size curves from the three graphs in Fig 1 are brought together in Fig 2. It will be seen that the proportion of one and two person families has increased at each of the three dates illustrated—as it has consistently over the entire period.

This trend towards an increasing proportion of small households reflects a series of demographic changes which have had and are continuing to have important effects on the nature of housing need. The changes can be highlighted by comparing the distribution of the population by age, sex and marital status, in 1861 and 1961, shown in Fig 3. The broad base of persons under 15 years old in the 1861 pyramid, the result of high birth-rates, is one obvious reason why households were larger then. But increasing life expectancy has radically altered the balance in the older age groups from 7 per cent of persons over 60 in 1861 to 17 per cent in 1961. The gap between life expectancy of males and females has also widened, now standing at 69 for males and 75 for females; more and more the housing needs of the very old are those of old women. Since the last war a growing proportion of the population over 15 are married, which has contributed to the increasing rate of household formation. During this period, average age at first marriage has been consistently dropping and is now 24 for men and 22 for women. This is likely to affect both the financial resources available to a couple for renting or purchasing their first home, and the age of the wife when childbearing is completed.

The effects of declining family size and increasing life expectancy on the relative length of different stages of the family cycle are shown in Fig 4. The picture is essentially a simplified one, based on a series of averages, but it nevertheless brings out two points of significance. The first is that the Victorian wife would have reached 40 before bearing her last child; her post-1930 counterpart is 10 years younger. The second, even more significant, is the marked increase in the length of the final stage, partly due to earlier completion of the family and partly to longer life expectation. Not only has this final stage lengthened on average, but the percentage of couples

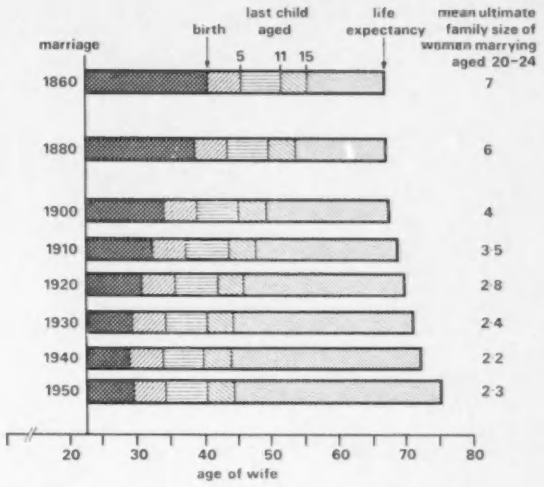

Fig 4 Length of stages of family cycle for successive marriage cohorts, 1860–1950

who might expect to survive to enjoy it has increased. Thus only 52 per cent of women aged between 20 and 24 who married in 1871 might have expected their marriage to continue unbroken by death for 30 years; the corresponding figure for those who married in 1911 was 71 per cent.

More important, with the movement of children away from the parental home now likely to begin when the wife is in her early forties, the couple have an extended period, beginning well before retirement, when they are again alone. This and subsequent widowhood for one partner, usually the wife, have been the major factors in the growth of one and two person households. Added to this, younger single people have tended to form separate households alone or with a friend. Of all households in England and Wales in 1966, 61 per cent contained no dependent children; not surprisingly, dependent children are most likely to occur in households of four or more persons. Much of the housing need in this country is therefore that of small adult households, although a great deal of the housing stock has been designed for a family containing children of pre-school or school age.

For families, the cycle of growth and decline in the size of household is important in terms of changing needs and the extent to which those needs can be met, particularly in so far as the stages are linked with financial prosperity or stringency. In broad outline beginning with marriage—and assuming that the wife is at work (see the next section)—there may well be a period of relative prosperity. With the arrival of children a more stringent period sets in while the demands of a growing family are met from a single wage. The ability to achieve larger accommodation at the time when demands on space are at their maximum may therefore be severely curtailed. Some time later, often when the wife returns to work, the family as it declines in size will enjoy its period of

Age group	millions			per cent		
		projections			projections	
	1961	1981	2001	1961	1981	2001
0–14	12·3	*13·4*	*14·8*	23·3	*23·2*	*23·5*
15–29	10·4	12·8	*13·6*	19·7	22·3	*21·5*
30–44	10·6	10·9	13·0	20·0	18·9	20·7
45–59	10·6	9·5	10·8	20·0	16·4	17·2
60–74	6·8	8·0	7·3	12·8	13·8	11·5
75+	2·2	3·1	3·5	4·2	5·4	5·6
all ages	52·9	57·7	63·0	100·0	100·0	100·0

1971-based mid-year projections
Numbers in italics are projections of those as yet unborn

Table 1 Age distribution of the population of the UK

greatest prosperity, probably continuing until retirement, when financial restriction may again be experienced. For this reason, many old persons are in poor quality housing. Types of small adult households other than married couples vary widely as to economic resources. Some, where all members are employed, are comparatively affluent, others such as students or women living alone have not only restricted finances but limited access to mortgage facilities. Such households may not be eligible for housing by the public sector and the decline of privately rented accommodation makes their position even more difficult. While various types of purpose-built accommodation are provided by the public sector for old people, there is little specific provision by either the public or private sector for other small adult households of working age, suited to their finances or their pattern of living.

The modern trends towards a high proportion of married persons in the population and marriage at an early age show no signs of change. The trend to complete child bearing in the early years of marriage also appears well established (nowadays nearly 70 per cent of all births are to women under 30). However, with over 90 per cent of married women below the age of 35 now practising some form of birth control, both the number and spacing of children is increasingly a matter of personal choice. A change in the pattern of spacing children (interval between marriage and first birth and between first and subsequent births) would lengthen or shorten various stages of the family cycle and this could have a more profound effect on housing need than minor variations in average family size. This must remain a matter for speculation; but as those who will be of an age to marry and build families in the next ten years, and those reaching later stages of the family cycle in subsequent years, are already born, it is possible to form a reasonably reliable picture of their relative distribution in the future population. Owing to the rise in the birth rate between 1956 and 1964, the number of persons aged 15–29 who are most likely to be marrying and producing children ten years hence will be proportionally greater than in 1961 (see Table 1).

Social changes

An increasing proportion of married women are now in paid employment. As recently as in the 1930s the proportion was only 10 per cent; by 1951 it was 25 per cent and it had risen to 38 per cent by 1966. However, their participation in the labour force is markedly affected by the presence of children, as Fig 5 shows; the peak age for working mothers is in their forties, a time when their children are growing up and family dispersal is approaching. The forecast for 1981 by the Department of Employment reflects the view that older married women today belong to a generation that for the most part has not been accustomed traditionally to seek employment outside the home; in future this age band will be drawn from a more emancipated generation with different attitudes to jobs.

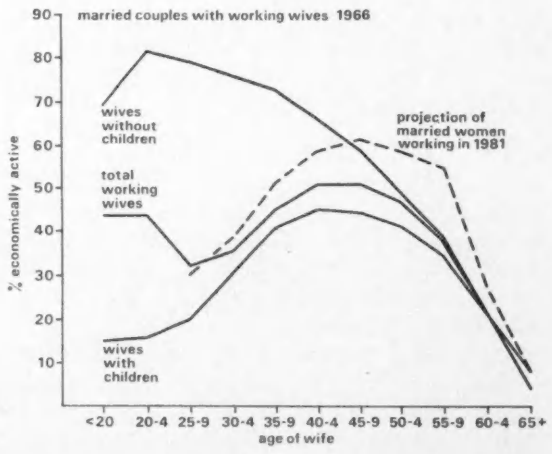

Fig 5 Percentage of wives, with children and without children, who were economically active

Although as yet only some building societies are prepared to take into account a proportion of the wife's income in granting mortgage facilities, the wife's income can contribute in other ways to improving living conditions in the home, through the purchase of furniture and furnishings, labour-saving appliances, convenience heating. At least in the middle income ranges much of the increasing affluence of the fifties and early sixties has been channelled in this direction. In the future there is likely to be a demand from those families with working wives who have reached the reasonably prosperous later stage of the family cycle for comparatively small but high specification dwellings: fully automatic heating, more generous space in service areas for household appliances, easily cleanable surface finishes.

Those who are purchasing houses through the aid of building societies are predominantly youthful: in 1970 27 per cent of borrowers from this source were under 25, 43 per cent between 25 and 34, and 19 per cent between 35 and 44. For some at least, home ownership begins with marriage and this in turn is likely to affect the nature of housing demand when they reach the later stages of the family cycle, by which time they will have a well-established equity in the housing market.

Before 1914 only about 10 per cent of housing was owner-occupied and the status of owner-occupier was associated with a person of some means. By 1947 this proportion had grown to 27 per cent; a further 12 per cent was publicly owned, but privately rented property still dominated the scene at about 60 per cent. Since then, much of this privately rented property has been absorbed into the owner-occupied group and some has been demolished; due to this, and to continuing building in the private sector, 52 per cent of dwellings in England and Wales were owner-occupied in 1970, 28 per cent were publicly owned, and private renting and other sectors had dwindled to 20 per cent. With this major swing to owner occupation it is to be expected that house owners include a much wider range of incomes. Fig 6 shows that, on the basis of total household income, persons who rent privately are the poorest group, only 50 per cent having incomes of £25 per week or more, compared with 55 per cent of those owning outright, 60 per cent in publicly owned housing and 90 per cent of those in the process of buying. This implies that, as the supply of privately rented property decreases further, many who are now in this group would not be in a position to contemplate purchasing a house, and amongst persons who own their homes outright, many could not afford extensive house improvements or even a reasonable level of maintenance.

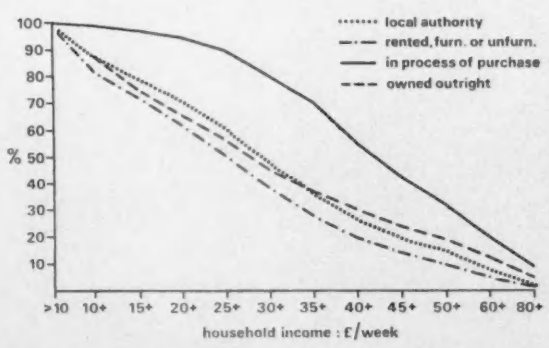

Fig 6 Cumulative distribution of household incomes and tenure: 1970

Summary

This digest has raised problems and offered only guides to solutions. The main points may be summarised as follows:

1 Those who provide housing—whether local authorities or private developers—should try to form a realistic picture of the households for whom they will be providing in the future. In particular they should be aware of national trends in household formation and size, and consider their local significance. Without necessarily conducting surveys of their own, much information on local characteristics of households and dwellings is available in the national census, and other published sources on housing statistics, and the family expenditure surveys offer a guide at least to regional trends.

2 The housing stock is becoming increasingly inflexible, both as a result of its polarisation between owner occupied and publicly owned housing, and the concentration on building three-bedroomed dwellings. If in the future a family of five or more persons came to expect more generous space standards, there would be little scope to realise this wish, if present trends continue.

3 All the current evidence points to an underprovision of dwellings suited to the needs of one and two person households. Small households of adults are now typical of the British scene; while these include many of the old people in this country, half of the one and two person households in 1966 in England and Wales consisted entirely of adults below pensionable age. Put another way, the small households of younger persons represented over a fifth of all households.

4 From the more affluent of these small adult households of working age, particularly those consisting of an older couple with a working wife, there is likely to be a demand for a high specification dwelling. The less affluent of such small households, faced with a decreasing supply of accommodation for renting privately, are likely to become an increasingly underprivileged group in the housing market, unless local authorities assume greater responsibility for housing them, and assisting them in other ways.

A note on standards of occupancy

Historically, one of the main concerns in improving housing conditions has been the reduction of overcrowding, which was most likely to be found in slum areas. Definitions of overcrowding have varied in housing literature, but one commonly employed has been two or more persons per room (this definition is more stringent than that of the 1957 Housing Act, which in assessing overcrowding, does not include infants, and counts a child under 10 years as 0·5 persons). Over the last half century, there has been considerable reduction in the proportion of households with the highest rates of room occupancy, as is indicated by the last line of Table 2. Defined as two persons or more per room, overcrowding has ceased to be a national problem, although it still occurs in certain specialised, but comparatively small, areas. The worst housing conditions are now associated with the sharing of facilities in houses that are inadequately converted for multi occupancy.

It will also be seen from Table 2 that small households have progressively bettered their position, but that after a degree of worsening or at best no improvement, only the decade 1951–61 has seen lower occupancy rates for the larger households. The situation in 1961 is in part a reflection of the increase both in small households and in dwellings of five rooms, depicted in Fig 1. Recently, concern has been expressed at 'underoccupancy' in parts of the housing stock. This in turn raises the question of what, in the nineteen seventies, might be considered a desirable standard of occupancy, since something only marginally better than overcrowding is unlikely to represent contemporary needs.

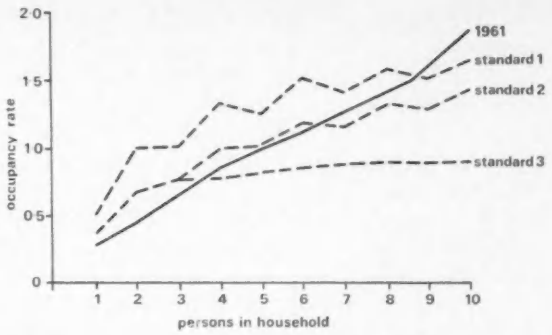

Fig 7 Room occupancy rates for standards of Table 3; rate achieved in 1961

While not selecting a single standard as desirable, a useful though crude means of assessing standards of occupancy can be devised. This takes into account separation of function (eating, sleeping, etc) and degrees of privacy for sleeping. The occupancy rates and numbers of rooms for different household sizes resulting from three such arbitrary standards are set out in Table 3. This indicates that, for a given degree of separation of function, small households will necessarily have lower occupancy rates than larger ones, a point of considerable importance in discussions of underoccupancy.

It is instructive to compare the occupancy rates represented by these three arbitrary standards with the average achieved by each size of household in 1961. It is evident from Fig 7 that households of up to three persons had lower occupancy rates than even the most generous of the three standards (and hence had an excess of space) and those of seven or more persons were deficient even on the basis of

Table 2 Persons per room, 1911–61

Number in household	Persons per room 1911	1921	1931	1951	1961
1	0·35	0·34	0·33	0·30	0·27
2	0·48	0·50	0·48	0·49	0·46
3	0·65	0·68	0·67	0·69	0·64
4	0·88	0·85	0·85	0·87	0·82
5	1·00	1·02	1·03	1·03	0·97
6–7	1·30	1·26	1·27	1·25	1·17
8–9	1·55	1·58	1·58	1·57	1·47
10 and over	1·83	1·73	1·67	1·90	1·82
mean for all households	1·10	0·91	0·83	0·74	0·66
Persons per room:	Per cent of all households				
–more than 1·5	16·9	16·3	11·42	5·1	2·8
–more than 2·0	5·4	*	3·9	*	*

*figures not available

Table 3 Room occupancy rates, for different household sizes, for 3 hypothetical standards of space

Persons in household	STANDARD 1 1 living room, no more than 2 persons per bedroom		STANDARD 2 2 living rooms, no more than 2 persons per bedroom		STANDARD 3 2 living rooms, couple share bedroom, all others separate bedroom	
	Rooms required	Occupancy rate	Rooms required	Occupancy rate	Rooms required	Occupancy rate
1	2	0·5	3	0·33	3	0·33
2	2	1·0	3	0·66	3	0·66
3	3	1·0	4	0·75	4	0·75
4	3	1·33	4	1·0	5	0·80
5	4	1·25	5	1·0	6	0·83
6	4	1·50	5	1·2	7	0·86
7	5	1·40	6	1·16	8	0·88
8	5	1·60	6	1·33	9	0·88
9	6	1·50	7	1·29	10	0·90
10	6	1·66	7	1·43	11	0·91
Mean for all households*		1·37		1·10		0·83

*Calculated on the assumption that each household size is equally represented.

In the 1911–61 censuses, the kitchen was counted as a living room only if used for eating; on this basis most modern council housing would be of Standard 2. This should be borne in mind when comparing the standards in Table 3 with those in Table 2.

the second standard. In 1961, 66 per cent of households consisted of up to three persons, and 3 per cent of seven or more persons. Even if the generous space standards now experienced by small households represent in some instances their perceived need for space, there remains the question of whether the type of dwelling in which this space is provided is the most suitable for their way of life.

There are statutory powers for dealing with overcrowding where it still exists. But the increasing proportion of persons in the population living at low occupancy rates implies both a trend to more spacious living conditions, and in some cases underutilisation of the existing housing stock. In allocating tenancies, or considering underoccupation in public housing, local authorities might wish to take note of the generally lower occupancy rates prevailing in the second half of the twentieth century.

Numbers of rooms are only a rough measure of spaciousness, which depends also on room sizes, but the latter are rarely available from large-scale survey data. The number of rooms needed to enable households of various sizes to achieve a given standard of space, such as one of the standards of Table 3, can be used to assess the overall 'fit' between house sizes and household sizes in an area, and the Registrar-General's census of population provides a ready source of data for this purpose. Table 3 shows how separate consideration of each household size helps the interpretation of these data, although average occupancy for all households is no guide to housing conditions in an area.

Further reading

W V Hole and M T Pountney *Trends in population, housing and occupancy rates 1861–1961*; HMSO: 1971

Central Statistical Office *Social trends*, Nos 1–3; HMSO: 1970–1972 (sections on housing and population)

D V Glass *The components of natural increase in England and Wales* pp 186–200 of the first report from the Select Committee on Science and Technology, Population of the United Kingdom; HMSO: 1971

Registrar-General *Sample census of England and Wales 1966* (household composition tables and housing tables) HMSO

Office of Population Censuses and Surveys, Population projections No 2 1971–2011 HMSO: 1972

Registrar-General *Statistical review of England and Wales*; HMSO: annually

Department of the Environment *Housing statistics,** *Great Britain*; HMSO: quarterly

Department of Employment *Family expenditure survey*; HMSO: annually (see 1970 edition)

W V Hole *The effects of current and future social changes on house design* BRS Current Paper CP 8/71

W V Hole *Housing standards and social trends*; Urban Studies Vol 2 No 2, 1965

*Since 1972 *Housing and construction statistics*

How to obtain BRE Digests

BRE Digests are published for the Building Research Establishment by Her Majesty's Stationery Office. They are obtainable from Government Bookshops at the addresses given below, or through booksellers. Single copies cost 5p each, plus postage. **Digests are NOT sold by the Building Research Establishment.**

49 High Holborn, London WC1V 6HB (callers only)
13a Castle Street, Edinburgh EH2 3AR
109 St Mary Street, Cardiff CF1 1JW
Brazennose Street, Manchester M60 8AS
50 Fairfax Street, Bristol BS1 3DE
258 Broad Street, Birmingham B1 2HE
80 Chichester Street, Belfast BT1 4JY

London area mail orders, and enquiries relating to the bulk supply of any one digest for which special quantity rates can be arranged, should be addressed to:

Her Majesty's Stationery Office
Post and Trade Department
PO Box 569
London SE1

An annual subscription of £1·20 (inclusive of inland postage) provides in addition to the twelve new issues per year, a copy of each new edition of an earlier digest published during the year—normally about six titles.

Department of the Environment **Building Research Establishment**

Prepared at Building Research Station, Garston, Watford WD2 7JR. © 1973
Technical enquiries arising from this Digest should be directed to Building Research Advisory Service at the above address.
Published by Her Majesty's Stationery Office and printed in England by Benham and Company Limited, Colchester.
Single copies 5p each. Annual subscription inclusive of postage £1·20 to cover 18 issues.
Quantity rates (excluding postage) for bulk supply of any one Digest: 25 for £1·05, 50 for £1·65, 100 for £3.

Dmnd. 505866 K739 SBN 11 721597 X